



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBE350A93-3317-20
Job Sheet 171364



Part No: RBE350A93-3317-20

Job Qty: 6 ea

Part Name: Tail Rotor Hub Insert Tool



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/31/18

Job Tracking No:

Due Date: 2/9/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG RBE350A93-3317-20 REV: 1B IPP REV: A 18.01.15 NEW ISSUE RQ VERIFIED BY: DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea		2/8/18	0.00	0.00	Start Up Machining-4		JK 18-2-24
120	CNC Lathe	6 pcs		2/9/18	0.00	0.50	MORI SL2500Y		JK
130	QC	6 pcs		2/9/18	0.00	0.00	QC2		JK
140	QC	6 pcs		2/9/18	0.00	0.00	QC8 Machining-2		JK 18-02-26
170	Outsource	6 pcs		2/9/18	0.00	0.00	Outsource12		AT 18/03/19
180	Packaging	6 pcs		2/9/18	0.00	0.00	Packaging2		AT 18/03/19
185	QC	6 pcs		2/9/18	0.00	0.00	QC6		38 DAE
190	Packaging	6 pcs		2/9/18	0.00	0.00	Packaging3		9-88 DAE
210	QC21-FG	6 Ea		2/9/18	0.00	0.00	QC21		GA/4/MAR 20 2018

Part Op 120 - 1-Machine as per folio FB742 FOLIO REV: _____ DWG REV: _____
Descriptions: or S/N number as required Using Marktronic engraver as per DWG.
170 - Issue P/O to Groupe Altech; PO 035186 -Black oxide finish, MIL-C-13924C Class 1 -Certificate of
Conformity is required
180 - Receive
MAR 21 2018
MAR 05 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-4140QT-R2.250	AISI 4140 Q&T Round Bar	1.9800 ft (.33 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-4140QT-R2.250	2	0	0

SC38524

241

Part Specifications

ould not be found.

Plex 1/31/18 11:10 AM Dart.lajeunesse.marie

OML 3-21



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S045036



Part: RBE350A93-3317-20

Job No: 171364

Serial No/Batch: S045036

Revision: RBE350A93-3317-20

Inspector:

Date: 02/24/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

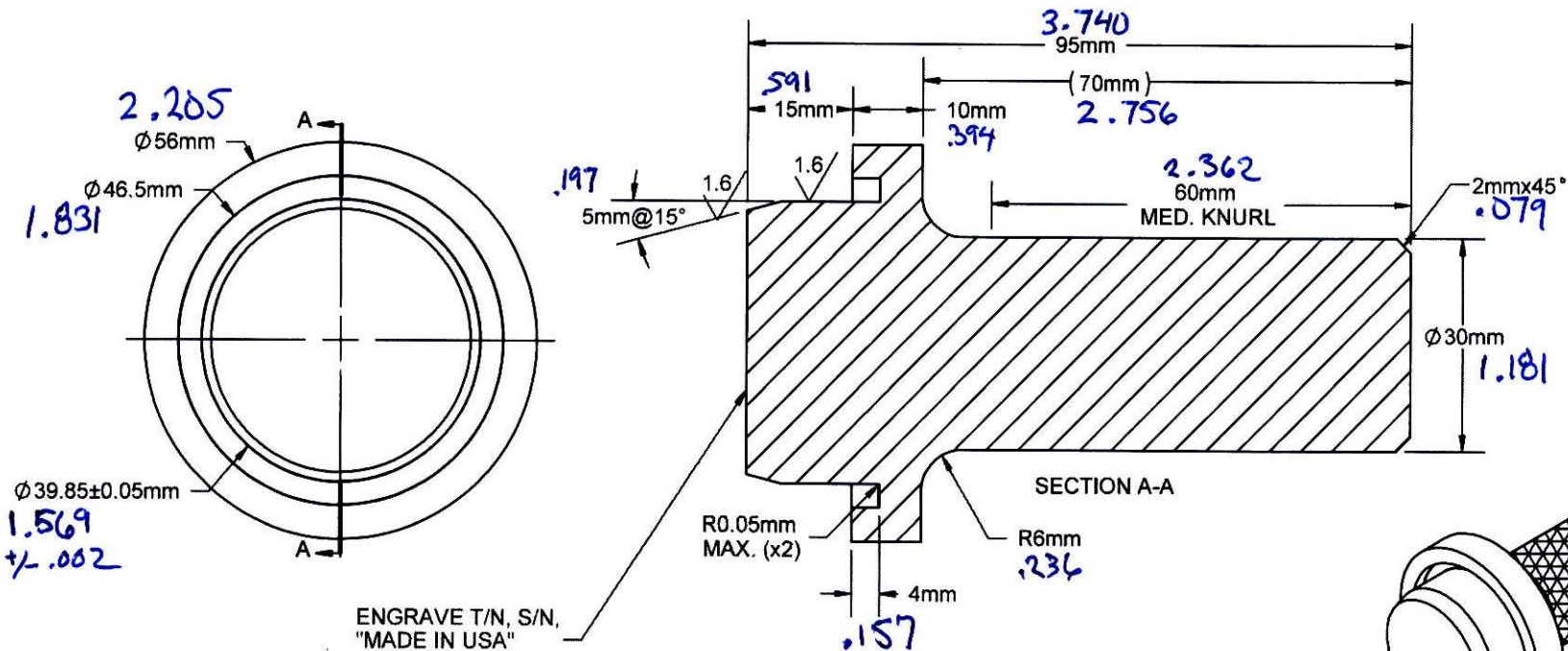
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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REVISIONS			
REV	DESCRIPTION	DATE	INITIAL
1	DESIGNED PER HELI PRODUCTS TOOLS	9/28/09	WP
1A	ADDED ENGRAVE NOTE & 70mm REF. DIMENSION.	10/4/11	RJC
1B	CH'D T/N WAS RBEA93-3317-20 IS RBE350A93-3317-20.	11/6/13	RJC



NOTE:
1. CENTERS OK.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 170575 MWS
1801-18

RED BARN MACHINE	
TITLE TAIL ROTOR HUB INSERT TOOL	
DWG NO. RBE350A93-3317-20	REV 1B
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	DRAWN BY PERRITT
DECIMALS .XXX ± .005	APPROVED
XX ± .01	HEAT TREAT
X ± .1	FINISH BLACK OXIDE
	SPEC USED ON MODEL
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES 015 x 45° PR 015 R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 9-28-09
SHEET 1 of 1	

ASSY QTY	ASSY QTY	B/O	PART #	UNIT QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS	Pg.
			1		INSERT TOOL	4140 Q&T	Ø2-1/4 in. x4 in.	-

$$\begin{array}{r} 171369 \\ + 20573 \\ \hline \end{array}$$

Page 1 of 1

Measured by:	11	Checked by:	12	QC Inspector:	
Date:	18-2-24	Date:	18-02-26	Date:	

Rev	Date	Change	Revised by	Approved
A	14.07.31	New Issue	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval _____	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



Dart Aerospace Ltd.
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Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO039186

Supplier:

GRO002-VC
Group Allech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

PO No:

PO039186

PO Date:

3/2/18

Due Date:

3/16/18

Purchase Order**Revision:****Revision Date:****Ship-To Contact:**

Baker, DianePhone:
dbaker@dataero.com

E-MAILED
MAR 07 2018

Ship To:

1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via:

Ground

Pynt Terms:

Net 30

Freight Terms:**Special Comments:****Items**

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170482	646.3913	Shim Issue P/O: _____ Cad Plating, CAD PLATE PER QQ-P-416, TYPE II, CLASS 2, CL2	Firmed	3/16/18	35 pcs	0 pcs	35 pcs	\$5.00/pcs	\$175.00
2	170332	RBE2-10-1-01	Slide -Issue P/O to Groupe Allech; PO _____ -Black oxide finish, MIL-C-13964, CLASS 1; MIL-C-16173 GRADE 4 -Certificate of Conformity is required	Firmed	3/16/18	6 pcs ✓	0 pcs	6 pcs	\$1.95/pcs	\$11.70
3	170569	RBE350A93-3303-02-1	Receiver Issue P/O to Groupe Allech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	3/16/18	6 pcs ✓	0 pcs	6 pcs	\$5.41/pcs	\$32.46
4	170596	RBE350A93-3303-02-3	Extractor Issue P/O to Groupe Allech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	3/16/18	6 pcs ✓	0 pcs	6 pcs	\$2.05/pcs	\$12.30
5	171364	RBE350A93-3317-20	Tail Rotor Hub Insert Tool Issue P/O to Groupe Allech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	3/16/18	6 pcs ✓	0 pcs	6 pcs	\$5.41/pcs	\$32.46



Certificat de Conformité / Certificate of Compliance



2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

007318- 1

Livré à / Ship to

DART AEROSPACE LTD

1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD

1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.	Bon de commande Client Customer Purchase Order No.				
16-Mar-2018		Celine Schreindorfer		PO039186				
#Ligne Line#	No. de Série / # Pièce Part Number / Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	A venir/ Back Order
2	RBE2-10-1-01 Rev.	RBE2-10-1-01 01 - BLACK OXIDE ON SST MIL-C-13964, CLASS 1; MIL-C-16173 GRADE 4	BLACK-OXIDE CH	6	6	0	0	0
3	RBE350A93-3303-02-1 Rev.	RBE350A93-3303-02-1 01 - BLACK OXIDE FINISH M MIL-C-13924C, CLASS 1	BLACK-OXIDE CH	6	6	0	0	0
4	RBE350A93-3303-02-3 Rev.	RBE350A93-3303-02-3 01 - BLACK OXIDE FINISH ON SST MIL-C-13942C, CLASS 1	BLACK-OXIDE CH	6	6	0	0	0
5	RBE350A93-3317-20 Rev.	RBE350A93-3317-20 01 - BLACK OXIDE FINISH ON SST MIL-C-13924C, CLASS 1	BLACK-OXIDE CH	6	6	0	0	0
6	RB412WA-CR&O-3-62-2A-1-2 Rev.	RB412WA-CR&O-3-62-2A-1-2 ASTM B633 TYPE 1 SC2 01 - ZINC-CLEAR TRI [ZINC CLEAR TRIVALENT]	ZINC CH	✓ 4	4	0	0	0
7	RBW6405G02331-3G-05 Rev.	RBW6405G02331-3G-05 ON SST MIL--C-13924C, CLASS 1 01 - ZINC-CLEAR TRI [ZINC CLEAR TRIVALENT]	ZINC CH	✓ 2	2	0	0	0
8	RBW6405G02331-3G-07 Rev.	RBW6405G02331-3G-07 ASTM B633 TYPE 1 SC2 01 - ZINC-CLEAR TRI [ZINC CLEAR TRIVALENT]	ZINC CH	✓ 9	9	0	0	0
10	RBST1007-13 Rev.	RBST1007-13 01 - BLACK OXIDE ON SST MIL-C-13924C CLASS 1	BLACK-OXIDE CH	4	4	0	0	0
11	RBT18603-01 Rev.	RBT18603-01 01 - BLACK OXIDE ON SST MIL-DTL-13924C CLASS 1	BLACK-OXIDE CH	5	5	0	0	0
12	RBT18603-07 Rev.	RBT18603-07 01 - BLACK OXIDE ON SST MIL-DTL-13924C CLASS 1	BLACK-OXIDE CH	4	4	0	0	0
13	RBST1007-11 Rev.	RBST1007-11 01 - BLACK OXIDE ON SST MIL-C-13924C CLASS 1	BLACK-OXIDE CH	4	4	0	0	0

9. RBE350A94-3700-C-2

DAS
36
9-89



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Certificat de Conformité / Certificate of Compliance



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Livré à / Ship to

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date	Créé Par Generated By	Transport / No de Compte Courier / Acc. No.	Bon de commande Client Customer Purchase Order No.				
16-Mar-2018	Celine Schreindorfer		PO039186				
#Ligne Line #	No. de Série / # Pièce Part Number / Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Quantités / Quantities			
				Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/ À venir/ Back Order

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements
 Our financial and legal responsibility will not be higher than the amount of invoice